

Entomology. It will be an occasion for congratulation to have an experienced bird student added to the ranks of entomologists.— W. L. M.

Economic Ornithology in Recent Entomological Publications.— Katydid's are said to have caused the loss of as much as a fourth of the crop in certain orange groves of California in 1914. The entomologists who describe the depredations — Messrs. J. R. Horton and C. E. Pemberton — state that "birds undoubtedly play an important part in reducing the number of adults each year."¹ "In 1911," they also say "a small chipping sparrow was noted in some abundance among trees of various Katydid-infested orchards, and was apparently very busily capturing Katydid's. Birds are undoubtedly the most important enemies of the Katydid in this section" (p. 11).

On the other side of the ledger must be set down the activities of bird enemies of *Calosoma sycophanta* a predacious beetle, introduced into New England on account of its value as a destroyer of the gipsy-moth. Messrs. A. F. Burgess and C. W. Collins in their report on this beetle say: "It is undoubtedly true that this species is eaten to some extent by birds, and the hairy woodpecker has been charged with destroying it on several occasions. The crow has been observed to feed on the beetles and also to carry them to their nests which were occupied by young birds."²

The authors, however, report a satisfactory increase and spread of the beetle.

The widespread outbreak of the army-worm, in 1914, called forth the publication of a number of bulletins, most of which acknowledge the value of birds as enemies of this pest. We quote from two of these reports. Dr. W. E. Britton, State Entomologist of Connecticut, states that "Of the birds occurring in Connecticut, the most important destroyers of the army-worm are the blackbirds, starlings, robins, thrushes, bobolinks, cat-birds, and barn swallows. Even the much despised English sparrow has been observed to feed upon them."³

With relation to an invasion of army-worms in Canada, Mr. Arthur Gibson says:⁴ "The wild birds are an important aid in outbreaks of noctuid caterpillars, and in 1914 large numbers of army-worms were devoured by them. Blackbirds were frequently noticed feeding upon the caterpillars in Ontario, and also in New Brunswick, as were also crows. During a local outbreak of the army-worm near Treesbank, Man., in 1913, Mr. Norman Criddle, Field Officer of the Branch, observed, in August, thousands of crows feeding upon the larvae. They were also seen to dig out and eat the pupae. A large flock of probably three thousand birds visited the infested locality every day from the time Mr. Criddle first noticed the worms until at least two weeks after the larvae had pupated. In western

¹ Bull. 256, U. S. Dept. Agr., July 27, 1915, p. 13.

² Bull. 251, U. S. Dept. Agr., July 27, 1915, p. 18.

³ Ann. Rep. Conn. Agr. Exp. Sta. for 1914, Part III, p. 166, 1915.

⁴ Bull. 9, Ent. Branch, Dept. Agr., Dominion of Canada, 1915, pp. 16-17.

Ontario, the English sparrow was reported to have fed freely upon the worms during the past season, and in Nova Scotia the writer saw the Vesper Sparrow devouring the caterpillars. Other wild birds which previously have been seen to feed upon the army-worm are the Bobolink, Robin, Meadow-lark, Bluebird, Kingbird, Blue-jay, Flicker, Cat-bird, Phoebe, Cowbird, Baltimore Oriole, Chipping sparrow, Chickadee, and Quail. The Sharp-tailed Grouse, common in Manitoba, feeds on smooth caterpillars, and doubtless would devour the army-worm. The same statement undoubtedly holds good for other birds than the above mentioned, which find their food in the open. The value of protecting our native insectivorous birds will thus be readily seen, and farmers, gardeners, etc., should do all they possibly can to protect them from being shot and their nests from being robbed." — W. L. M.

The Ornithological Journals.¹

Bird-Lore. XVII, No. 3. May-June, 1915.

Bird Photography for Women. By Miss E. L. Turner.—With numerous photographs of British birds.

Bird-Life in Southern Illinois. IV. Changes Which Have Taken Place in Half a Century. By Robert Ridgway.—An admirable discussion of decrease in birds in general and of this region in particular.

Migration of North American Birds. By W. W. Cooke.—Brown Creeper and Gnatcatchers. Plumage notes by F. M. Chapman, colored plate by Fuertes.

Bird-Friends in Arizona. By W. L. and Irene Finley.—Contains a splendid series of photographs of desert birds followed by a similar article in the July-August issue.

Bird-Lore. XVII, No. 4. July-August, 1915.

The Making of Birdcraft Sanctuary. By Mabel Osgood Wright.

Louis Agassiz Fuertes.—Painter of Bird Portraits. By F. M. Chapman (from the American Museum Journal).

Our Tree Swallows. By M. Louise Brown.

How the Sapsucker rears its Young. By C. W. Loveland.

The Kingbird — Educational Leaflet by T. G. Pearson, with colored plate by Horsfall.

The Condor. XVII, No. 3. May-June, 1915.

A Summer at Flathead Lake, Montana. By Aretas A. Saunders.

An Apparent Hybrid between Species of the Genera *Spatula* and *Querquedula*. By H. S. Swarth.—A male shot at Del Rey, Cal., Dec. 13, 1914.

An Annotated List of the Birds of Kootenai County, Idaho. By H. J. Rust.—149 species listed.

¹ The name of the editor and publisher of each journal will be found in the January number of 'The Auk.'